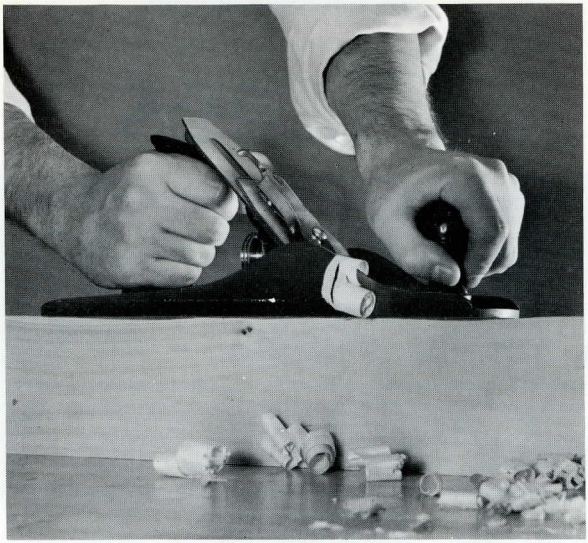
STANLEY®

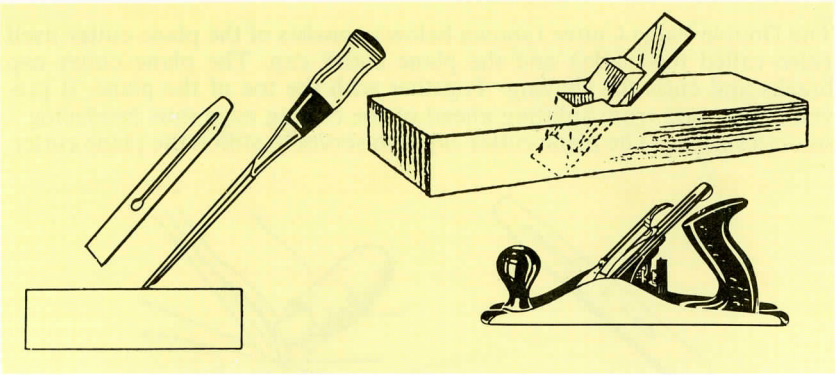
Planes

PLANE FACTS

on how to select...use...care for...sharpen



PLANE FACTS has been prepared to help hobbyists and woodworkers obtain a maximum of utility and pleasure from these fine planes. For the amateur, this will serve as an instruction manual and guide for the proper use of his plane. For the experienced woodworker, this booklet will serve as a handy reference. It is hoped that a study of these pages will result in increased satisfaction in the use of these quality tools.



The modern plane has evolved from the chisel and is nothing more or less than a chisel placed in a block of metal so that it may be more easily controlled in taking an even cut.

Types Of Planes . . .

There are three broad classifications of planes:

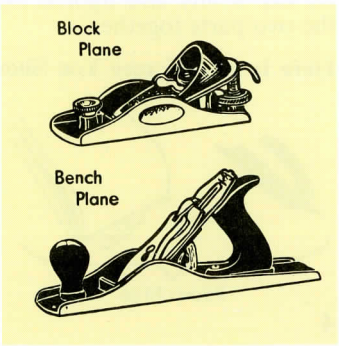
Bench planes are called either "smooth", "jack", "fore" or "jointer" planes depending upon their length.

Block planes are small planes which have low angle cutters and are designed to cut the end grain of a piece of wood.

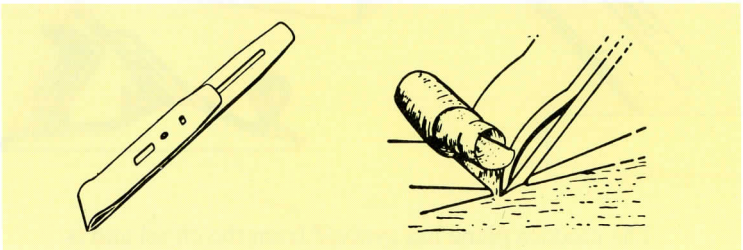
Special planes may be rabbet, router, trimming, combination or other special purpose types.

Deciding On A Plane . . .

The most generally useful plane is the smooth plane. It will do a good job on most planing operations. Block planes are designed to cut the end grain of a piece of wood and will do that job better than a smooth plane. Many household jobs call for the use of block planes. As you become more proficient in the use of these planes, applications will suggest themselves for which you will require various special purpose planes.

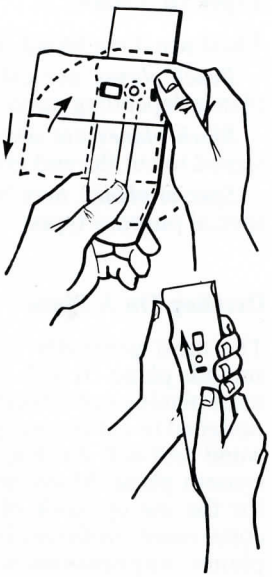


The Double Plane Cutter (shown below) consists of the plane cutter itself (also called the blade) and the plane cutter cap. The plane cutter cap breaks and curls the shaving. Together with the toe of the plane, it prevents the wood from splitting ahead of the cutting edge thus producing a smooth surface. The plane cutter cap also serves to stiffen the plane cutter.

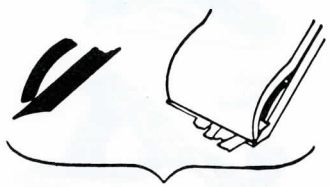


How To Adjust It...

To put the plane cutter and the plane cutter cap together: lay the plane cutter cap on the flat side of the plane and at right angles to it with the screw in the slot; draw the plane cutter cap back; turn it straight with the plane cutter; advance the plane cutter until the edge is just back of the cutting edge of the plane cutter (the plane cap should be set $\frac{1}{16}$" back of the cutting edge for most work, closer for cross or curly grained wood). The plane cutter cap must not be dragged across the cutting edge. Hold the plane cutter and the plane cutter cap firmly and tighten the screw to hold the two parts together.



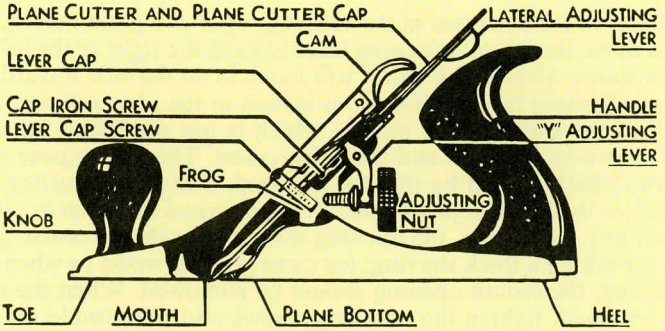
Here Is The Picture You Should Get ...

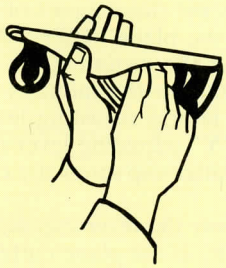


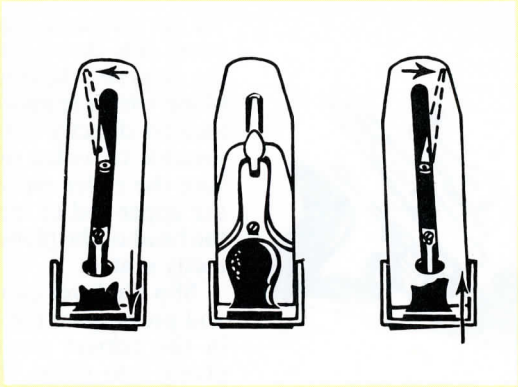
To Put The Plane Together . . .

To put the plane together lay the plane cutter, bevel side down, on the frog. (As shown in the diagram, the frog is the sloping part of the plane which supports the plane cutter and is located directly behind the mouth. It is adjustable to widen or narrow the mouth.) Be sure the roller on the lateral adjusting lever, the upper end of the "Y" adjusting lever and the head of the plane cutter cap screw are correctly seated.

Slip the lever cap over the lever cap screw and press down the cam. If the plane cutter is in the correct position the cam will easily clamp into place. If the cam will not clamp in place easily, slightly loosen the lever cap screw. If the plane cutter is not firmly held when the cam is in place, slightly tighten the lever cap screw.







Adjusting To Cut Is Quick, Easy Accurate . . .

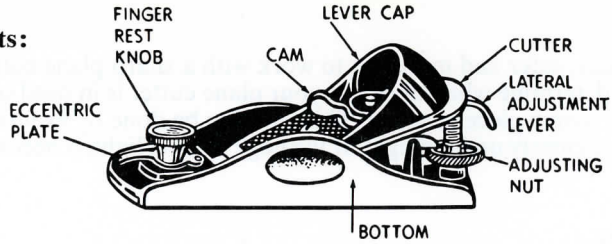
To adjust for the thickness of the shaving, sight along the bottom of the plane and turn the adjusting nut until the cutting edge projects about the thickness of a hair.

The plane cutter is moved out when the adjusting nut is rotated clockwise. (The nut moves toward the handle.) The plane cutter is moved in when the adjusting nut is rotated counter clockwise. (Nut moves toward the frog.)

To adjust for the evenness of the shaving, sight along the bottom of the plane and move the lateral adjusting lever toward the right or the left as required, as shown above. The cutter will move in on the side toward which the lateral adjusting lever is moved, as shown in the above illustration.

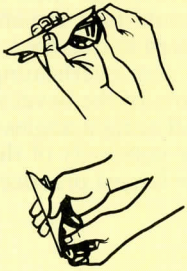
To adjust for width of the mouth, which is not necessary for general work, first remove the lever and the plane cutter. This will expose the two frog screws which should be slightly loosened. The frog adjusting screw, located below the brass adjusting nut, may be turned to widen or close the mouth opening. Generally, the opening should be wide for coarse grained wood or for taking a thick shaving; for close grained wood or when taking a fine shaving, the mouth opening should be narrowed. When the desired width is obtained, tighten the two frog screws and reassemble the plane. The plane as received will be set for general work, with the frog in such position that the plane cutter will just clear the back edge of the mouth. The frog should not be moved further back.

It's parts:



The block plane has a single plane cutter set at a low angle to cut end grain. Because of the low angle, the cutter is set bevel up. It is a handy plane for light trimming.

How To Adjust It...



To adjust the cutter vertically for thickness of the shavings, sight along the plane bottom and turn the adjusting screw to either push the cutter out or to pull it in.

To adjust the cutter laterally for evenness of the shavings, sight along the plane bottom and move the lateral adjusting lever to the right or to the left as necessary. On planes without a lateral adjusting lever, the cutter may be tapped lightly at either side to make this adjustment.

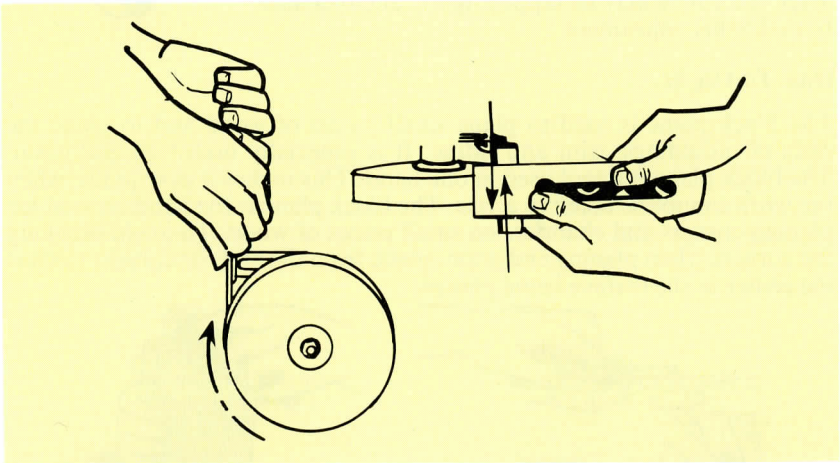
How To Use It...

The block plane is used to plane small pieces of wood and to plane the ends of mouldings, trim and siding. It is especially useful on end grain. The block plane is a tool used in one hand. This makes it easy to use when the work cannot be taken to a vise. The block plane is the handiest tool for planing corners and chamfers on small pieces of wood. To avoid breaking the corners when planing end grain, plane from the ends or corners toward the center of the surface being planed.

It is easier, safer and more fun to work with a sharp plane cutter. The best way to determine whether or not your plane cutter is in need of sharpening is to try it on a piece of wood. This can also be done by examining the cutting edge closely under a light. If the edge reflects light, it needs sharpening.

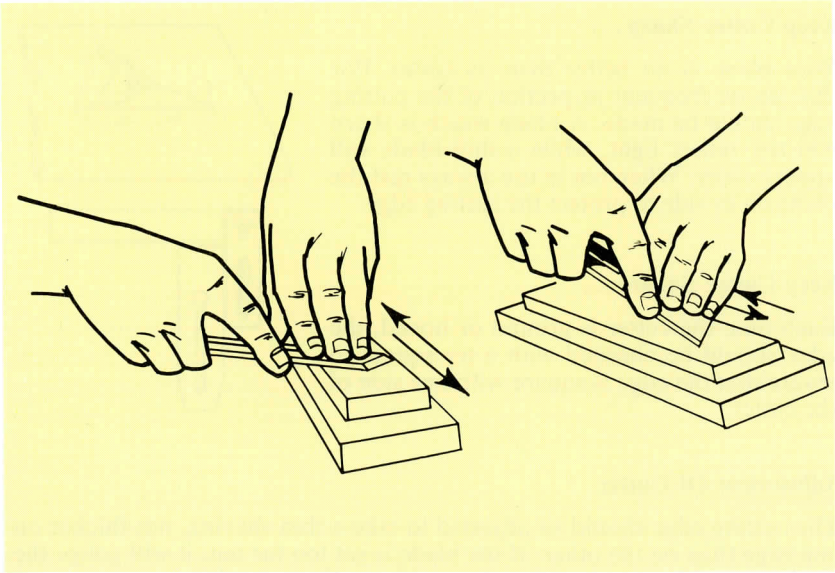
Grinding . . .

Grinding your plane cutter should be done only when a new bevel is necessary or when the edge of the cutter is nicked. Grinding straightens the edge and restores the bevel preparatory to sharpening by whetting on an oilstone. To obtain the proper grinding angle of about 25°, make the bevel a little longer than twice the thickness of the plane cutter. The grindstone should turn toward the plane cutter. The plane cutter should not be allowed to overheat, to avoid softening the steel. Quench frequently in water to stop overheating. Move the plane cutter from side to side to grind all parts of the bevel and to keep the wheel true. The edge should be straight and at right angles to the sides of the plane cutter. For maximum strength, the concavity of the cutting edge should be kept to the minimum by using the largest practical diameter of grinding wheel available.



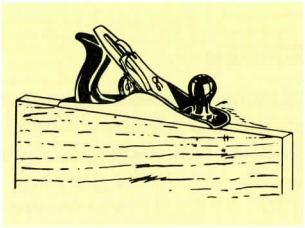
Whetting . . .

Honing or whetting your plane cutter is done much oftener than grinding it, for it is whetting which produces the really sharp cutting edge. An important fact about plane cutters is that there are two different angles of the blade. One is the grinding angle (25°-30°), the other, the whetting angle (30°-35°). It is only the whetting angle that you will ordinarily attack with an oilstone. In whetting, place the bevel down on the stone with the back edge of the bevel slightly raised. Move the plane cutter back and forth being sure the hands move parallel to the stone so the angle between the plane cutter and the stone will stay the same throughout the stroke. Remove the wire edge by taking a few strokes with the flat side of the plane cutter held absolutely flat on the stone.



It is important to determine the direction of the grain of any piece of wood which is to be planed. Planing against the grain roughens the wood, while planing with the grain leaves the wood with a smooth surface.

If you have a choice of the piece of wood to be used, it is preferable to avoid planing a side containing knots. Old or used pieces of wood should be examined to discover possible nails or other defects which might damage the cutter.

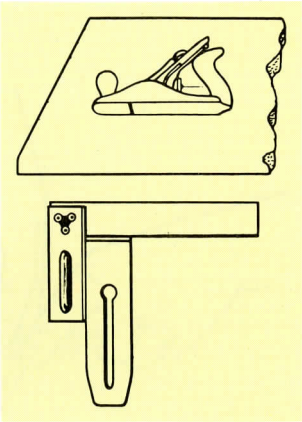


Hold The Board Securely . . .

A good vise or the use of a bench stop is required for surface planing to hold the board securely with the grain running in the direction in which you will be planing.

Keep Cutter Sharp . . .

Your plane is no better than its cutter. For this reason frequent inspection of the cutting edge should be made. A blade which is sharp will not reflect light, while a dull blade will appear shiny. When not in use always rest the plane on its side to protect the cutting edge.



Keep Cutter Square . . .

Each time the cutter is ground or honed, the edge should be checked with a try square to assure that the edge is square with one side of the cutter.

Adjustment Of Cutter

The cutting edge should be adjusted to take a thin shaving, not thicker on one edge than on the other. If the blade is set too far out, it will gouge the work or clog the throat of the plane with the thick shavings.

No. 3 & 4 Smooth

A smooth plane is 8″ or 9″ long. It is used for light work, or, generally, on surfaces which are already level, and require only lowering or smoothing.

No. 5 Jack

A plane 14″ or 15″ in length is called a Jack Plane. It is longer and heavier than a smooth plane and is a more powerful tool. It is ideal for use on rough surfaces where a coarse chip is desired, but it is also suitable for obtaining a smooth and flat true surface.

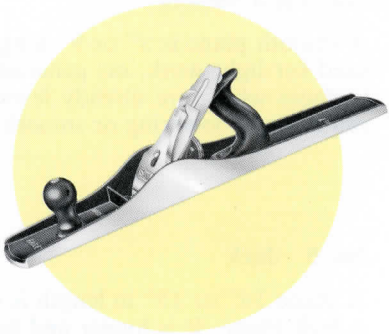
A "Junior" Jack Plane, No. 5¼, is also available, 11½″ long with a 1¾″ cutter.

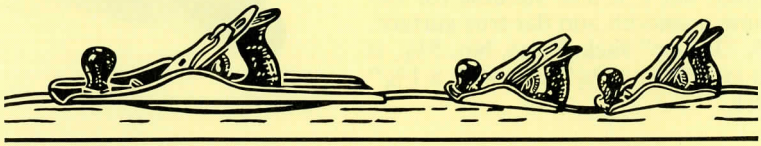
No. 6 Fore

A plane 18″ long is known as a Fore Plane and is used for long true surfaces. It may be used as either a long jack plane or a short jointer plane.

No. 7 Jointer

A plane 22″ in length is called a Jointer Plane. It is the longest and heaviest hand plane made. It derives its name from its ability to smooth and true the edges of boards to such a fine degree that they may be joined together to make close-fitting joints. With this plane the flattest and truest surfaces may be obtained. The illustration below indicates how a long plane cuts down the high spots of a surface being planed.





No. 4 Smooth Plane

Favorite of woodworkers everywhere. 2 in. wide hardened steel cutter is adjustable both laterally and for coarse or fine shavings. Throat is adjustable for coarse or fine work. This plane is made of the finest gray iron castings; has hardwood handle and knob. Plane is 9 inches long.

No. 5 Jack Plane

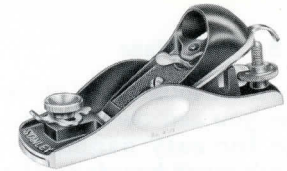
Here is the most useful all-around plane you can own. Perfect balance for easy handling. Will smooth rough boards quickly and accurately. 2 in. hardened steel cutter is adjustable for coarse or fine shavings. Throat is adjustable for coarse or fine work. Plane body is made of the finest gray iron casting, ground straight and true. Comfortable handle and knob are native hardwood. Plane is 14 inches long.

No. 6 Fore Plane

An 18 inch plane with 2⅜″ cutter width, this plane is one of the finest obtainable. The length of the bottom makes it possible to obtain long straight true edges. The cast plane body is machined true and smooth. Individually tested cutters are made of special analysis steel to retain cutting edges longer. Fully adjustable for evenness and thickness of shavings. Native hardwood handles and knobs are shaped for comfortable grip.

No. 9½ Block Plane

A small plane with big plane features. Has all cutter adjustments. Throat is adjustable for coarse or fine work. Cutter is 1⅝″ wide, set at an angle of 20°. Handy for end grain and small pieces of wood. Plane is 6″ long.

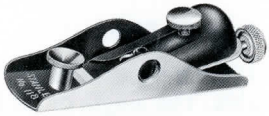


No. 9¼ Block Plane

A fine plane for small work. The cutter is fully adjustable. The 1⅝″ cutter is set at an angle of 20°. Made of finest gray iron castings. The plane is 6″ long. Similar to No. 9½ but without adjustable throat.

No. 118P Block Plane

All steel plane. Only 3 removable parts: cap, cutter and bottom; complete with adjustments locked in place. Eliminates lost parts. Low angle cutter rests on seat at 12° angle. 6″ long. Cutter 1⅝″ wide.



No. 60½P Block Plane

Low angle block plane. Cutter rests on seat at an angle of 12° for easier planing across end grain. Cutter fully adjustable. Throat is adjustable. Dark blue finish lever cap and trim. 6″ long. Cutter 1⅜″ wide.

No. 65 Block Plane

Cutter is adjustable endwise and edgewise. Throat is adjustable for coarse or fine work. Cutter is set at 12° angle. Nickel plated lever cap and trim. 7″ long. Cutter 1⅝″ wide.

Duplex Rabbet Plane

This plane has two seats for the cutter: one for regular work, and the other for bullnose work. It is fitted with a spur and a removable depth gauge. The adjustable fence can be used on either side of the plane. By removing the fence and arm, the plane can be used for several purposes and in many positions.

No. 78

Side Rabbet Plane

For planing along the side of a rabbet cut or groove. Used in trimming dados, moulding's and grooves of all kinds. Equipped with reversible nose-piece for working in corners. A depth gauge is furnished. Sides and bottom are ground to insure accuracy. Nickel plated.

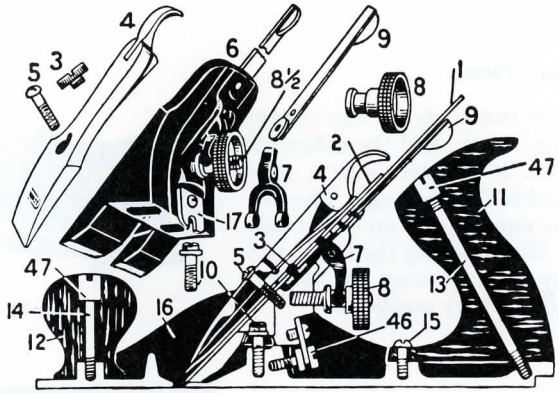
No. 79

Cabinet Makers' Rabbet Plane

These cabinet makers' rabbet planes are made with the sides and bottoms machine ground square to one another so plane will lie flat on either side. They can be worked either right or left hand. The throat opening is adjustable for coarse or fine work and the cutters are adjustable for thickness of shaving. No. 90 is of the bullnose pattern and can be used in corners or other hard-to-get-at places.

No. 90P

No 92

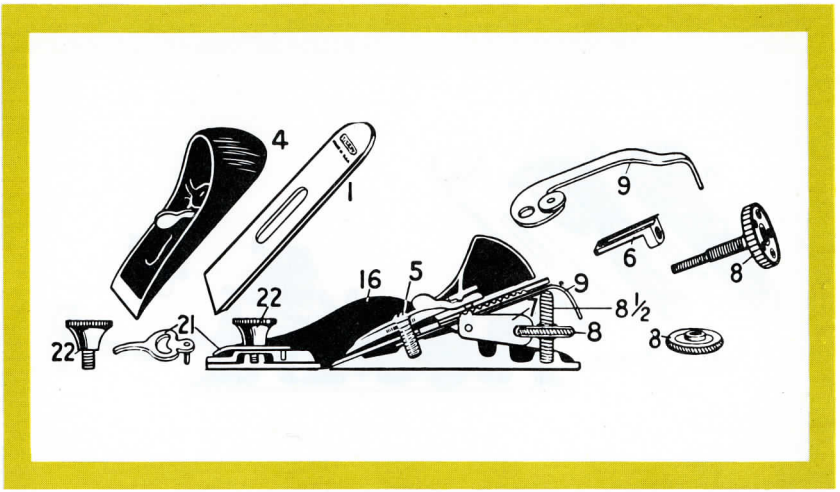


No.	Name of Part	List Each For Plane Nos. 3 3C	4 4C	5 5C	5¼	6 6C	7
3	Cap Screw	$0.10	$0.10	$0.10	$0.10	$0.10	$0.10
4	Lever	1.70	1.70	1.70	1.70	1.80	1.80
5	Lever Screw	.10	.10	.10	.10	.10	.10
6	Frog Complete	2.40	2.40	2.40	2.40	2.40	2.40
7	"Y" Adjusting Lever	.10	.10	.10	.10	.10	.10
8	Adjusting Nut	.50	.50	.50	.50	.50	.50
8½	Cutter Adjusting Screw	.10	.10	.10	.10	.10	.10
9	Lateral Adjusting Lever	.25	.25	.25	.25	.25	.25
10	Frog Screw	.10	.10	.10	.10	.10	.10
11	Wood Plane Handle	1.50	1.50	1.50	1.50	1.50	1.50
	Aluminum Plane Handles No. 3X Fits Planes 3, 4, 5¼ No. 5X Fits Planes 4½, 5, 6, 7, 8	2.00	2.00	2.00	2.00	2.00	2.00
12	Wood Plane Knob	1.00	1.00	1.00	1.00	1.00	1.00
13	Handle Bolt and Nut	.25	.25	.25	.25	.25	.25
14	Knob Bolt and Nut	.25	.25	.25	.25	.25	.25
15	Handle Toe Screw	...	...	.10	...	.10	.10
16	Plane Bottom	3.90	3.90	4.60	4.60	10.20	11.40
17	Frog Clip and Screw	.25	.25	.25	.25	.25	.25
46	Frog Adjusting Screw	.10	.10	.10	.10	.10	.10
47	Nut only for Handle and Knob Bolts	.10	.10	.10	.10	.10	.10

Add 10 Per Cent For Corrugated Bottoms.

In ordering be sure to specify *number and name of Part* and *Number of Plane*, thus: No. 4 Lever for No. 5 Plane. It will also help us if you will include with your order a rough sketch or tracing of the part desired.

Minimum charge is 25 cents net, which includes postage.

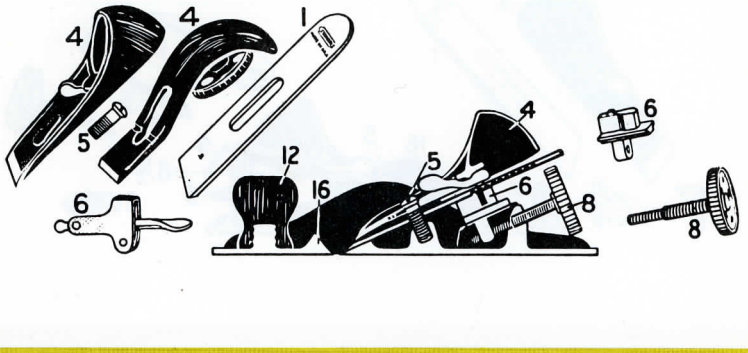


EXPLODED VIEW

No.	Name of Part	List Each For Plane Nos. 9¼ 9½**	60½P**	65**	118P
4	Lever	$0.60	$0.60	$0.60	$1.80
5	Lever Screw	.10	.10	.10	—
6	Adjusting Slide	—	.25	.25	*
7	Adjusting Lever	.10	—	—	—
8	Adjusting Nut	.25	.25	.25	*
8½	Adjusting Nut Screw	.10	—	—	—
9	Lateral Adjusting Lever	.25	—	—	—
16	Plane Bottom	3.60	3.60	3.60	4.20
21	Eccentric Plate	.25	.25	.25	—
22	Finger Rest Knob	.25	.25	.25	—

*6/8 Adjusting screw and nut one assembly on No. 118P plane $0.60

**On Nos. 9½, 60½P and 65 planes, the adjustable throat is a built-in part of plane bottom. Plane must be returned to factory to have throat fitted.

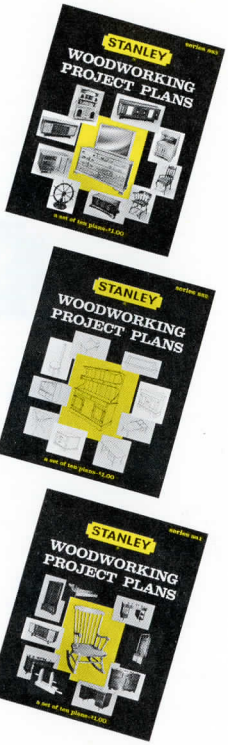


EXPLODED VIEW

No.	Name of Part	List Each For Plane Nos. 101P	102P	110	220
4	Lever	$0.25	$0.60	$1.00	$0.60
5	Lever Screw	—	.10	.10	.10
6	Adjusting Slide	—	—	—	.25
8	Adjusting Screw	—	—	—	.25
12	Plane Knob	—	—	.25	.25
16	Plane Bottom	1.20	1.20	1.80	2.10

In ordering be sure to specify *number and name of Part* and *number and Plane*, thus No. 4 Lever for No. 9½ Plane. It will help us if you will include with your order a tracing or rough sketch of the part desired.

Minimum charge is 25 cents net, which includes postage.



SS-1, SS-2 and SS-3

These newly published sets consist of ten each of the woodworking projects submitted for awards in Stanley's National Scholarship Contest. All projects were designed and constructed by high school students. Plans include easy-to-follow detailed drawings with full dimensions and material list.

Set No. SS-1 includes plans for: a rocking chair, two gun racks, coffee table, stereo cabinet, chest, dresser, bookends, and two desks. Set No. SS-2 includes a hutch cupboard, desk, coffee table, stool, dry-sink, tray, wall shelf, cobbler's bench, chest, and end table. Set No. SS-3 includes plans for: a dresser, two stereo cabinets, a cupboard, two chairs, a desk, a night stand, a chest and coffee table.

Select the literature you want . . . circle the corresponding numbers on the coupon at right . . . complete the coupon and enclose in envelope, with cash to cover the total cost. Mail to address on coupon.

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